

Work Order ID 48612

Friday, June 26, 2009 9:17:18 AM



Page 1

Item ID: D2622-120C

Accept



Setup Start



Revision ID: C1

Stop



Item Name: Step Extrusion

Start Date: 7/15/2009 Start Qty: 121.00



Cust Item ID:

Required Date: 8/3/2009 Req'd Qty: 121.00



Customer:

Reference:

Run Start



Approvals: Process Plan: N Date: _____ Tooling: _____ Date: _____

Stop



QC: N Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D2622	Rev C1
-------	--------

100	PURCHASING	0.00
-----	------------	------



Purchasing

Memo

0.00

Purchasing

Issue P/O: 8951 ☐ a) Extrude as per Dwg D2622 Rev. C ☐ b)
Material: 6061-T6 (QQ-A-200/8) ☐ c) Minimum yield tensile strength = 35
ksi ☐ d) Minimum ultimate tensile strength = 38 ksi ☐ e) Minimum elongation =
8% ☐ f) Order at 120" longg) Bon L Canada Inc.

CZ 09/06/16 121

110	Receive & Inspect for Damage & Mat'l Certs	0.00
-----	--	------



Packaging

Memo

0.00

Packaging

Ensure material certification is attached

12/7/15 (126)

120	QC6- Inspect dimensions to drawing	0.00
-----	------------------------------------	------



QC

Memo

0.00

Quality Control

Check Pull test per Dwg D2622 for compliance page attached Check hardness
with Webster tester

275 09/07/15


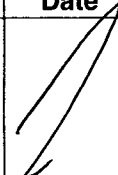



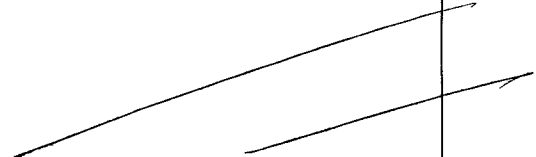


count
(126)

f

PB

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D2622-120C PAR #: N/A Fault Category: Large Fab NCR: Yes No DQA: AS Date: 09-08-18
 Resolution: acceptable Disposition: use as is QA: N/C Closed: AS Date: 05-05-20

NCR: 418612		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
9/7/15	#2 120	Dunking inspection of extrusion Found that the Parts are measuring 3.015" in width and 2.520" in height.		- Acceptable as all mating parts still fit for ass'y. - Investigating the issue with supplier. - Additional size will not affect any ass'y at this time		S 09/07/15		
		(should be 3.000 and 2.500 ± .010) R.C. seems that the Dies are starting to wear.				OK #09/07/15		

NOTE: Date & initial all entries

Work Order ID 48612

Friday, June 26, 2009 9:17:18 AM



Page 2

Item ID: D2622-120C

Accept



Setup Start



Revision ID: C1

Stop



Item Name: Step Extrusion

Start Date: 7/15/2009 Start Qty: 121.00



Cust Item ID:

Required Date: 8/3/2009 Req'd Qty: 121.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: U/A x18 0.00Back hall ~~B-108~~ x108

Packaging

Memo

total = 126 0.00

SAD 09-07-16 (126)

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/07/2009

W 09.07.09

Picklist Print

Page 1

Friday, June 26, 2009 9:17:17 AM

Work Order ID: 48612



Parent Item: D2622-120CRevC1



Parent Item Name: Step Extrusion

Start Date: 7/15/2009

Required Date: 8/3/2009

Comments:

Start Qty: 121.00

Required Qty: 121.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2622-120CRevC1		Purchased	No			110	Each	0.0000	121.0000	✓		

Extrusion

Date: Tuesday, 16/06/2009 10:58:53 AM
 User: Chantal Lavoie

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	STEP EXTRUSION
Job Number :	48612		
Estimate Number :	10058		
P.O. Number :		Part Number :	D2622120C
This Issue :	16/06/2009	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D2622 REV C1
First Issue :	/ /	Project Number :	N/A
Previous Run :	46910	Drawing Revision :	C1
Written By :		Material :	
Checked & Approved By :	<u>C209106116</u>	Due Date :	06/07/2009
Comment :	Est. A: 02.11.12 New Issue KJ/RF	Qty:	120 Um: Each
Type : PURCHASED PARTS			

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0

PG

PURCHASING



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs

PURCHASING

Issue P/O: 8981C209106116

a) Extrude as per Dwg D2622 Rev. C

b) Material: 6061-T6 (QQ-A-200/8)

c) Minimum yield tensile strength = 35 ksi

d) Minimum ultimate tensile strength = 38 ksi

e) Minimum elongation = 8%

f) Order at 120" longg) Bon L Canada Inc. tool # 897123 Rev. A

h) To be packed per DSK 066

i) Pull test to ASTM standard B221 required.

j) Material certification is required

121

2.0

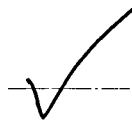
D2622120CP

Extrusion



Comment: Qty.: 1.0000 Each(s)/Unit Total : 120.0000 Each(s)

Extrusion



3.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs

PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached



Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 16/06/2009 10:58:54 AM
User: Chantal Lavoie

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STEP EXTRUSION

Job Number: 48612

Part Number: D2622120C

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC6

DIMENSIONAL CHECK



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs
DIMENSIONAL CHECK
Inspect dimension per Dwg D2622
Check Pull test per Dwg D2622 for compliance page attached
Check hardness with Webster tester



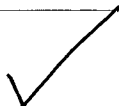
5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs
PACKAGING RESOURCE #1
Identify and Stock
Location: _____



6.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs
FINAL INSPECTION/W/O RELEASE



Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

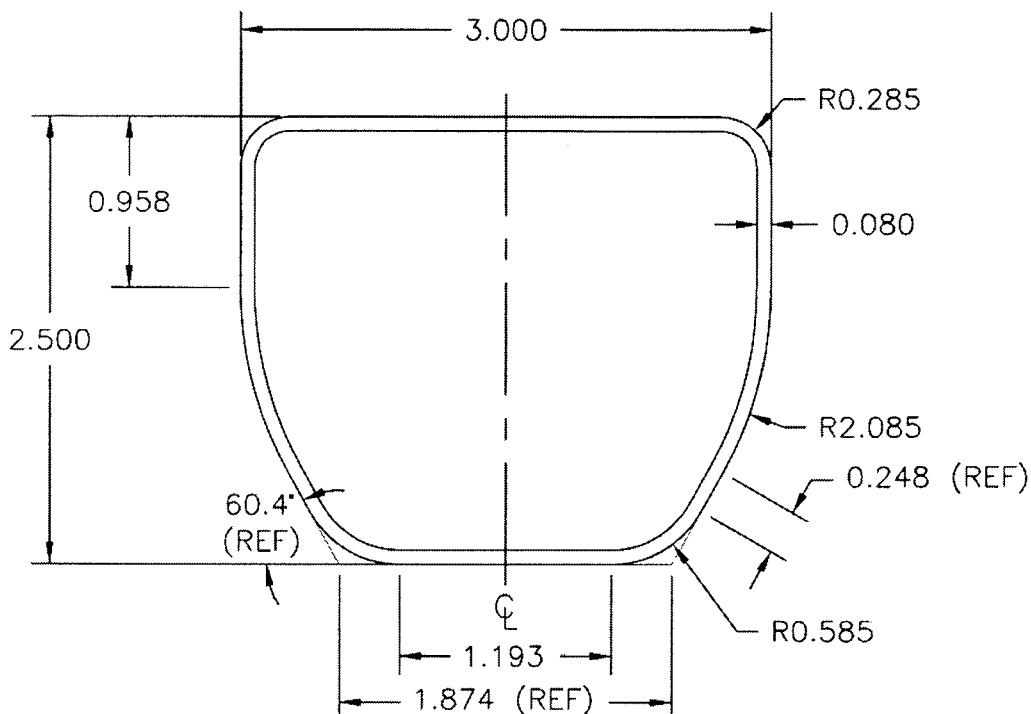
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN KE	DRAWN BY 4P	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D2622	REV. C SHEET 1 OF 1
DATE 02.09.11		TITLE STEP EXTRUSION	SCALE 1:1
A	96.11.29	NEW ISSUE	
B	97.12.12	CHANGE MATERIAL, ADD TOL. QSI	
C	02.09.11	0.080 WAS 0.085; ADD PART & DIE No.	
C1	02.10.04	ADD 'REV. A' TO DIE NUMBER	



D2622-XXX STEP EXTRUSION

- 1) PART NUMBER IS D2622-XXX WHERE 'XXX' IS CUT LENGTH IN INCHES (EG. D2622-120 IS 120" LONG)
- 2) MATERIAL 6061-T6 (QQ-A-200/8)
- 3) MANUFACTURED USING BON-L DIE # 897123 REV. A
- 4) A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE MINIMUM MECHANICAL PROPERTIES STATED BELOW:

MINIMUM TENSILE YIELD STRENGTH = 35 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi
MINIMUM ELONGATION = 8%

C 209/06/16
W/D: 486/12

- 5) PART IS SYMMETRIC ABOUT CENTERLINE
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 7) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

INVOICING COMPANY AND LOCATION
SIGNATURE ALUMINUM CANADA
500 EDWARD AVENUE
RICHMOND HIL ON L4C 4Y9

SHIPPING MANIFEST

MANIFEST DATE 07-13-09
MANIFEST NUMBER 663462
SALES ORDER NUMBER 50417

REFER TO
THESE NUMBERS ON
ALL CORRESPONDENCE

ACCT# 00046024

SHIP TO DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY ON K6A 1K7 CN PHONE 613-632-5200	SOLD TO / PURCHASER DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY ON K6A 1K7 CN PHONE 613-632-5200
--	--

TERMS / FREIGHT
O / P

CREDIT REP HAMBROOK, PAU 905-508-3250	SALES REP
FIELD SALES REP Kutter A 450-435-6551	CUST SERVICE REP Burton D 905-427-2227

CUSTOMER ID 46024	ORDER DATE 06/16/09	CUSTOMER PO NUMBER 8981	JOB	BILL OF LADING NUMBER 08395543
----------------------	------------------------	----------------------------	-----	-----------------------------------

ITEM NO.	ORIGINAL ORDER QUANTITY	UNIT	PREVIOUS SHIPPED QUANTITY	MFG. PART NUMBER CUSTOMER PART NUMBER	ALLOY & TEMPER LENGTH CUTTING TOLERANCE	FINISH DESCRIPTION FABRICATION DESCRIPTION SHIPPING TOLERANCE	THIS SHIPMENT			UNIT	QUANTITY DUE
							NBR OF PKGS	GROSS POUNDS	NET QUANTITY		
01	1104	LB	0	DAA-897123-1	6061 /T6	MILL	2	1202	1140	LB	0
	1210	FT	0	D2622	120"	CERTIFICATE OF COMP			1259.99	FT	0
	121	PC	0		+3/16 "	(+015-015, 0139-0102)			126	PC	0
				LOT/TKT DETAIL:		50417010 / 213865	1	534	503		56 PC
						50417010 / 213866	1	668	637		70 PC
							2	1202	1140	LB	
									1259.99	FT	
									126	PC	
TOTALS											

Transportation/Traffic damages and/or shortage claims are to be noted on the delivery copy of sellers shipping manifests and signed and dated below by customers authorized representatives.
No return materials will be accepted for credit without permission. The articles and/or services covered by this shipping manifest were produced in accordance with the fair labor standards act of 1938 as amended. Order accepted subject to the terms and conditions stated on the reverse side.

PAGE 1

126

SHIP TO/EXPÉDIÉ À DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY ON K6A 1K7 CANADA PHONE 613-632-5200				SOLD TO/VENDU À DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY ON K6A 1K7				SHIP TO/REMETTRE À SIGNATURE ALUMINUM CANA P.O. BOX 25021, STAT "A" TORONTO ON M5W 2X8				ACKNOWLEDGMENT DATE DATE DE CONFIRMATION TO THESE TERMS ON ALL CORRESPONDENCE 07-10-09 SALES ORDER NUMBER/N° DE COMM 51731			
CREDIT REP REP. DU CRÉDIT HAMBROOK, PA 905-508-3250		SALES REP REP. DES VENTES		FIELD SALES REP REP. REGIONAL DES VENTES Kutter A 450-435-6551		CUST SERVICE REP REP. SERVICE CLIENTÈLE Burton D 905-427-2227									
CUST. ID/ID DU CLIENT 46024		ORDER DATE/DE LA COMM 07/10/09		CUST PO NO/N° DE COMM. DU CLIENT 10045		JOB		TERMS/CONDITIONS 1% 10 Days Net 30 Da							
BILL OF LADING NO NO. DE CONNAISSANCE		SHIP DATE DATE DE LIVRAISON		SHIP VIA EXPÉDIÉ PAR		FREIGHT TRANSPORT		LOC LOCATION		ORDER TYPE TYPE DE COMM.		END USE UTILISATION FIN.		SALESMAN VENDEUR	
						PPD		PIC		SO		202		043	
ITEM NO. D'ITEM	ORDER QUANTITY QUANTITÉ COMMANDEE	UNIT UNITÉ	MFG PART NUMBER N° DE PIÈCE DU MFG	ALLOY & TEMPER ALLIAGE & TREMPAGE	FINISH/ FAB CODE	FINISH DESCRIPTION DESC. DE LA FINITION	UNIT PRICE PRIX À L'UNITÉ	UNIT UNITÉ	SHIP DATE DATE D'EXPÉDITION PRÉVUE						
			CUSTOMER PART NUMBER NUMÉRO DE PIÈCE DU CLIENT	LENGTH LONGUEUR	CODE DE FINITION/ FABRICATION	FABRICATION DESCRIPTION DESC. DE FABRICATION									
				CUTTING TOLERANCE TOLÉRANCE DE COUPE		SHIPPING TOLERANCE TOLÉRANCE D'EXPÉDITION									
<p>***** visit us at www.signaturealuminum.com *****</p> <p>Metal prices are based on the current market conditions and are subject to change.</p>															
01	2,198 LB	DAA-897105-2	6061 / T6	001	MILL		LB	08-01-09							
	1,298 FT	D2500-1-190	190"		CERTIFICATE OF COMP		FT	PIC							
	82 PC	DIE REV: A	+5/16" -0"		(+010-010,0090-0073)		PC	E							
<p>CUSTOMER NOTES:</p>															

NO RETURN MATERIALS WILL BE ACCEPTED FOR CREDIT WITHOUT PERMISSION/AUCUN RETOUR DE MATÉRIEL NE SERA ACCEPTÉ POUR CRÉDIT SANS PERMISSION

CERTIFICATE OF COMPLIANCE

SIGNATURE ALUMINUM CANADA

500 EDWARD AVENUE
RICHMOND HILL, ON L4C 4Y9

SIGNATURE ALUMINUM CANADA

500 EDWARD AVENUE
RICHMOND HILL, ON L4C 4Y9

Cert Date	Cert No	Sales Order	Page
07/13/09	194201	50417	1
Cust PO	B/L No	Lot	Date
8981	08395543	50417010	7/13/09
Sold To	Ship To		
46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7	46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7		

Item No	Part No	Item Description		Cust Part
1.000	DAA-897123-1	120" Mill 6061 T6		D2622
Gross Weight	1202 LBS			
Net Qty	1,140 LB	126 PC	1260 FT	2 PKG
Specification				Die Desc
AMS-QQ-A-200/8 & ASTM B221-08				

Mechanical Tests:

Test No.	Tensile MPA / KSI	Yield MPA / KSI	%Elongation	Conductivity	Bend/ Drift HREW
1	295.2 / 42.8	266.9 / 38.7	10.8	.0	90

Chemical Analysis:

SI	FE	CU	MN	MG	CR	NI	SO	ZN	GA	V	TI	ZR	OTHER
.65	.27	.26	.04	.94	.06	.005	.04	.000	.010	.02	.000	.00	

This will certify that the material described herein has been inspected and tested in accordance with Signature Aluminum Canada's standard sampling and testing procedures or in accordance with the requirements of any specification forming a part of the material description to the extent indicated herein. Data of chemical composition for the material and test results from samples representative of the material are set forth above hereof or in any attachments hereto. This information shows that the material meets the applicable requirements. Inspection and test records are maintained on file. This certificate shall be deemed apart of and subject to the terms and conditions of warranty set forth on the reverse side of our order acknowledgment form. No other warranties are applicable.

D. VanBakel, QA Manager Signature Aluminum Canada Inc